

ABSTRACT

The present invention relates to composite processing apparatus which can securely process a conductive material, such as a copper film, at a low surface pressure and a high rate while effectively preventing the formation of pits. The composite processing apparatus of this invention including: a substrate holder (42) for holding a substrate (W); a processing table (46) including a mechanical processing section (82) for processing a surface of the substrate (W) by a processing method involving a mechanical action, and an electrolytic processing section (84), provided separately from the mechanical processing section and having a processing electrode (86) provided with an ion exchanger (92), for processing the substrate (W) by applying a voltage between the processing electrode (86) and the substrate (W) while keeping the ion exchanger (92) in contact with the substrate (W); a liquid supply section (94) for supplying a liquid between the substrate (W) and the processing electrode (86), and between the substrate (W) and the mechanical processing section (82); and a drive section for moving the substrate (W) and the processing table (46) relative to each other.